## REVISIONS

1. (Once Amended) A fiber optic scintillator cell comprising:

a first component formed of scintillating material; ~~and~~

a second component formed of optically stimulated material.; and

wherein the first component and the second component are arranged in a discretely layered stack.

5. (Once Amended)The fiber optic scintillator cell of claim 4 wherein the scintillating material comprises material capable of absorbing electromagnetic energy and outputting optical emissions in response thereto and wherein the optical emissions cause the second component to output a signal having an intensity exceeding an intensity of the optical emissions received ~~by~~from the first component.

9. (Once Amended) A detector for a computed tomography system, the detector comprising:

a fiber optic scintillator configured to receive high frequency electromagnetic energy from a first direction having a first intensity and further configured to output light energy in a second direction generally parallel to the first direction having a second intensity, wherein the second intensity exceeds the first intensity; and

a photodiode ~~optically~~ coupled to the scintillator generally perpendicular to both the first and second directions and configured to detect the light energy output from the fiber optic scintillator.

15. (Once Amended) A CT system comprising:

a rotatable gantry having an opening to receive an object to be scanned;

a high frequency electromagnetic energy projection source configured to project a high frequency electromagnetic energy beam toward the object;

a scintillator array having a plurality of scintillator cells wherein each cell is configured to detect high frequency electromagnetic energy passing through the object,

wherein each cell is configured to output light energy having an intensity exceeding an intensity of the high frequency electromagnetic energy detected by the cell;

a photodiode array optically coupled to the scintillator array and comprising a plurality of photodiodes configured to detect light output from a corresponding scintillator cell, wherein each photodiode outputs a signal indicative of the light output of the corresponding scintillator cell;

a data acquisition system (DAS) connected to the photodiode array and configured to receive the photodiode outputs; and

an image reconstructor connected to the DAS and configured to reconstruct ~~an~~ CT image of the object from the photodiode outputs received by the DAS.

23. (Once Amended) A method of manufacturing a fiber optic scintillator cell having optical gain, the method comprising the steps of:

fashioning a first component of scintillating material;

fashioning a second component of optically stimulated material; and one of:

intermixing the first component and the second component in a single composite structure, and

forming the first component in a single layer, forming the second component in a single layer, and connecting the first component layer and the second component layer to one another in a ~~single~~discretely layered structure.